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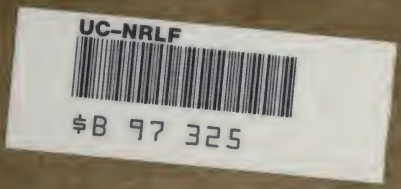

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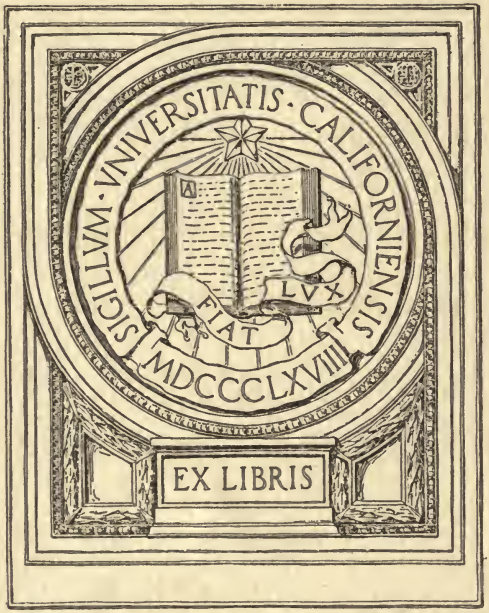
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WORLD SHIPPING DATA

Report on European Mission

By EDWARD N. HURLEY

Chairman, United States
Shipping Board

UNIV. OF
CALIFORNIA

Washington, D. C.
March 1, 1919

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From: Edward N. Hurley, Chairman, United States Shipping Board.

To: United States Shipping Board.

Subject: Report on European Mission.

Merchant shipping is now the universal interest of mankind. Every nation, great or small, is alert to the vital bearing of ships upon its future prosperity. After three months spent in the midst of the great events connected with the termination of the war and the solidification of peace, I deem it an immediate duty to lay before my colleagues of the United States Shipping Board a report upon the data accumulated by my conferences and investigations.

The war has brought us into a high place as a maritime power. I find the peoples of the world aroused to an intense interest and concern as to the use we are to make of this power, now that peace is returned. My observations in Europe compel optimism. In America, you have heard much about British competition. In Great Britain I heard a great deal more about American competition. The expressions of British publicists, newspapers and officials which came to my attention provided no grounds for alarm about the future of our shipping. The lesson I learned from the British was not to concentrate too much upon the strength of the competition we must meet. For more than a generation, we have heard British seamanship and British ship-operating ability lauded. We have shared this admiration. But, in our praise,

we have been prone to ignore the advantages that lay on the side of the ships that flew the British Flag. The truth is that our friends across the water are, for the first time in many years, entering upon a period of actual competition. It is an era regarding which I entertain no misgivings. The obstacles of inexperience will quickly give way before American industrial strength and energy. It is a new age of ocean transportation as well as of world policy. It is an age in which new conditions will rule and old advantages will become inoperative. It is an age of promise for those who would participate in America's high desting upon the peaceful seas.

World Tonnage Situation—Summary

The first thing necessary is to know where we stand. It has been possible since the armistice to assemble the necessary information regarding the war's effect upon maritime power. We know now the extent to which the German campaign of piracy reduced the steam sea-going tonnage of the world, despite the energetic construction undertaken by the United States and the other nations.

At the outbreak of the war, in July, 1914, the total steam sea-going merchant tonnage of the world (exclusive of Germany, Austria, and Turkey) was 34,924,000 gross tons.* During the war the Allies and neutrals lost 12,815,000 tons through enemy action. They also lost 2,192,000 tons through marine risk, and about 210,000 through

*To compute deadweight tons from gross tons, take 150 per cent of the gross tonnage; to compute gross tons from deadweight tons, take 66 2/3 per cent of the deadweight tonnage.

seizures by the enemy, making a total loss of 15,218,000.

To offset these losses there were the following gains: Through new construction, 11,856,000 tons; through capture from the enemy, 2,393,000 tons, making a total acquisition of 14,249,000 tons. It will be seen from the above that the net loss of allied and neutral nations is only 969,000 tons, leaving the tonnage of allied and neutral nations 33,956,000 at the close of the war. In order to arrive at the total loss of tonnage for the world, it is necessary to take into account the losses from the German and Austrian fleets during the war. As the result of careful study, it has been found that the net losses for Germany and Austria are about 2,350,000 tons. If we add to this the net loss of allied and neutral nations (969,000 tons), we get a total loss of 3,319,000 gross tons. This figure, however, is too small to indicate the total loss to world tonnage, due to the fact that many vessels were pressed into service during the war which were considered unfit for service before the war, and many others were kept in service long after they would have been abandoned under normal conditions. If a deduction of one million tons were made for actual and accumulated abandonment and other losses not included in the figures above, we would have a total of 4,319,000 gross tons to deduct from the merchant fleet of the world in order to arrive at a fair estimate of its tonnage today.

Since the steam sea-going merchant tonnage of the world (including Germany, Austria and Turkey) was approximately 41,420,000 tons at the out-

break of the war, the total tonnage of the same sort at the present time is approximately 37,100,000 tons.

This figure, however, does not give us an adequate idea of the shortage in world tonnage at the present time, because for the ten years previous to 1914 the world tonnage of steam vessels had been increasing at the rate of approximately 4.7 per cent annually (about 2¼ million tons). If it had continued to increase at this same rate from the outbreak of the war until the first of January, 1919, it would have been between ten and twelve million tons greater in 1919 than in 1914.

Tonnage Situation of the United States

The United States forged ahead as rapidly as Germany fell behind. In August, 1914, at the beginning of the world war, the United States sea-going merchant marine, 500 gross tons and over, included 624 steamers of 1,758,465 gross tons, and 870 sailing vessels and schooner barges of 947,852 gross tons, making a grand total of 1,494 sea-going merchant vessels of 2,706,317 gross tons. On November 11, 1918, at the end of the war, the steam merchant marine had increased to 1,366 vessels of 4,685,263 gross tons, and the sailing vessels and schooner barges had decreased to 747 vessels of 829,917 gross tons, making a grand total of 2,113 sea-going vessels of 5,515,180 gross tons. This does not include the seized enemy vessels, which at the end of the war aggregated 88 vessels of 562,005 gross tons, of which number 81 of 546,210 gross tons were steamers, and 7 of 15,795 gross tons were sailing vessels.

The total construction in the United States added to the merchant marine during the war 875 vessels of 2,941,845 gross tons. The purchase from aliens of 233 vessels of 833,854 gross tons, the movement to the ocean from the Great Lakes of 66 steamers of 139,469 gross tons, and miscellaneous acquisitions amounting to 31 vessels of 39,219 gross tons are other sources of acquisition. The loss of 114 vessels of 322,214 gross tons by enemy action, of 278 vessels of 405,400 gross tons by marine risk, of 130 vessels of 268,149 gross tons by sale to aliens, and of 64 vessels of 149,761 gross tons through sale to the U. S. Government, abandonment and other causes accounts for the decreases. Losses of 15 seized German and requisitioned Dutch steam vessels, amounting to 112,248 gross tons, are not included in the losses given above.

Today we are potentially the greatest marine power of the earth, for the reason that we possess the greatest shipbuilding instrumentalities.

Great Britain's Position and Prospects

At the outbreak of the war the merchant tonnage of the United Kingdom was composed of 8,587 steam vessels of over 100 tons gross, with a tonnage of 18,892,000, and 653 sailing vessels of 100 tons gross and over, aggregating 365,000 tons.

During the war British losses amounted to 9,032,000 tons gross, of which 7,754,000 were lost through enemy action; the remainder, 1,278,000, were lost through marine risk, abandonment, etc.

The United Kingdom built 4,342,000 tons of merchant vessels during the war. She purchased 530,000 tons from other countries and captured 717,000 tons from enemy countries, which were later brought into action, making a total gain of 5,589,000 tons from all sources. Thus the net loss of the British during the war was 3,443,000 tons. Her tonnage at the close of the war was, therefore, 15,814,000. This figure probably over-states the tonnage available for use, due to the fact that many vessels were pressed into service and kept in service during the war which would normally have been written off as losses.

Now let us note the power Great Britain has revealed in forging ahead. In 1913, British shipyards achieved a record output of 1,900,000 gross tons. The first year of the war, 1914, witnessed a considerable reduction; in 1915, it fell again, and the yards turned out only 650,000 gross tons; the next year compelled further withdrawals from the shipyards of men and materials, and the total output was 540,000 gross tons. The British realized, however, that it was a mistake to neglect any possible replacement of destroyed tonnage. By renewed efforts, they turned out 1,200,000 gross tons in 1917, and in 1918 mounted to a still higher total.

During the war the British employed 381,000 men on Admiralty and repair work as against 116,000 in merchant shipyards. It remains to be determined how large a proportion of British shipbuilding energy will be diverted from Navy work to the increase of the

merchant marine. I have heard the prediction made in general that the return of shipyard workers from the Army and other additions to shipbuilding strength will permit a construction of nearly 3,000,000 gross tons in the present year.

I have been much interested in ascertaining the basis of the prediction that 3,000,000 tons will be produced by Great Britain this year. I find that the 56 merchant shipyards of England have 246 ways, which have an estimated maximum annual output of 1,882,983 tons; that Scotland has 35 yards of something less than 165 ways, which claim to be able to produce 1,067,000 tons, and Ireland has 4 substantial yards which could turn out at most 250,550 gross tons. Thus it will be seen that the total estimated maximum output of the yards of Great Britain for one year, given favorable labor conditions and an amplitude of materials, would exceed 3,000,000 tons.

The yards of England, Scotland, and Ireland had 309 ships totalling 1,435,979 gross tons on the ways on November 30, 1918. Forty-nine ships totalling 204,089 gross tons had been launched but not completed on that date. It is interesting to scrutinize the character and type of the vessels which were being constructed in England at that time. The cargo vessels on the ways numbered 262, a total of 1,104,142 gross tons and 8 vessels totalling 42,300 gross tons had been launched but not completed. Thirty-two tankers of approximately 200,000 gross tons were on the ways and 39 of somewhat smaller total gross tonnage had been launched but not completed. The British were then building 12 refrigerator steamers

totalling 100,000 gross tons, and five passenger ships which averaged something over 8,000 gross tons. There were 105 overseas barges totalling 53,000 gross tons under construction also.

Junk Ships

I have heard a good deal said about the construction of "junk ships" in America, emphasis thus being laid on the number of small vessels we had under construction. The impression was sought to be conveyed that our new ships would suffer thus by comparison with those laid down by our friends and associates overseas. It may surprise these critics to hear, as I have heard, that British yards had under construction October 31, last, 66 ships of 6,000 tons and over. Our program for that date called for 106 ships of more than 6,000 tons.

Turning Back to Peace Conditions

The nations of the world are proceeding somewhat slowly to emerge from the restraints imposed by war utilization of shipping. The necessities of the situation compel measured action. In England the policy is to avoid nationalization of shipping and to withdraw control as promptly as possible. The movements in this direction, while considerable, are subject to needful restrictions thus far. It was only the other day that a prominent English newspaper spoke very vigorously of the desirability of restoring the rule of private initiative. The sale of certain uncompleted standard ships has been arranged by the British Government and it may be well to draw your attention to the procedure under which this transaction was conducted. In January, Lord Inchcape in a letter to the

Chamber of Shipping announced that, in conjunction with Sir Owen Phillips (of the Union Castle Line), he had agreed with the Shipping Controller to take over the contracts into which the Government had entered with shipbuilders for the construction of standard steamers. About 137 such steamers were building and this number was therefore involved. The agreement does not, however, reach to the ferro-concrete steamers, few in number, which are under construction for the Admiralty. Lord Inchcape went on to state that the vessels secured would at once be offered to British shipping companies on the terms on which they were acquired. In the allocations, regard would be had to the magnitude of losses suffered by the respective applicants during the war.

Lord Inchcape and Sir Owen Phillips are apparently little more than the intermediaries between the Ministry of Shipping and the shipping companies. Instead of conducting the business by private sale, as has been done in the case of completed steamers, the Ministry has divested itself of its building contracts by a single transaction and has shifted to the shipping companies as a body the task of allocating the unfinished tonnage. Such a procedure is simpler for the Ministry, and, I am informed, more satisfactory to the companies.

What the British ship-owner gains through purchasing at this stage is the opportunity of having the standard boats completed somewhat according to his individual needs. The chief criticism of such boats has been their reported inadaptability to varied services. But it has been pointed out that considerable

adaptation would be possible, if prospective purchasers could give directions and have them followed. This now becomes possible.

The terms of purchase and repurchase are not known. The estimate appearing in the newspapers relative to the transaction between the intermediaries and the Ministry is that some £20,000,000 is involved. Undoubtedly the Ministry is writing off a considerable part of its construction costs, and the price made to the companies is naturally a satisfactory one.

The Situation in Other Nations

The study of Shipping Board experts revealed a teeming ambition among other powers to achieve a higher maritime standing. In almost every country the desire exists not only to replace war losses but to add new totals to be used in the work of reconstruction and in developing new foreign trade. "The cumulative miseries of four and one-half years have reminded the world that civilization is transportation," said a noted British authority recently, "and, as the sea controls the land, ships are far more important than railways since they constitute the principal, indeed the one means of carriage between those nations dependent upon the outside for their foods and raw materials." Even Switzerland has not escaped this desire to acquire a merchant marine. I am informed that the Swiss intend to construct a merchant navy of their own, which, after the canalization of the Rhine, will bring coal oil, grain and other necessary supplies in exchange for the manufactured goods of Switzerland.

France Aspires

France is planning her first effort in modern times to secure a merchant marine commensurate with her foreign trade. France lost 528 vessels of 907,000 gross tons through enemy action during the war. Her loss constituted about 39 per cent of her entire merchant fleet at the outbreak of the war.

In connection with the rehabilitation of the French Merchant Marine, Monsieur Bouisson, commissioner for the Mercantile Marine, recently expressed himself as being in favor of recovering all of the French tonnage destroyed by submarines from her associates in the war. This, he thinks, would be only a fair payment for the efforts of France's arsenals, shipyards and naval shops on behalf of her associates.

Great Britain has tentatively agreed to build 500,000 tons of shipping for France when conditions permit, and France expects further to strengthen her merchant fleet by purchases of ships from other shipbuilding nations.

The French Navy League, representing the principal French shipping companies and shipbuilding industries, has appealed to President Wilson to use his influence in enabling France to reconstruct her merchant fleet. France has lost, as a result of the war, 40 per cent of her tonnage and thousands of her best seamen. All her shipyards have been turned over to producing war material, so that she was unable to replace her losses by new construction. The proposals which the League places before President Wilson are three: first, that German and Austrian shipping be given to France to replace her losses ton for ton; second, that French shipowners be immediately

enabled to buy 1,000,000 tons of ships built in Great Britain and 1,000,000 ton of ships built in America; third, that French shipowners be enabled immediately to construct in American shipyards 2,000,000 tons of cargo steamers. The French indeed have large plans for their new enterprise.

Italy Reaching Out for Tonnage

Italy lost more than half her merchant fleet during the war. Her losses through enemy action were 565 vessels with a tonnage of 852,000 or 51 per cent of her entire fleet in 1914.

Italian officials are said to feel that it is now very necessary to replace the lost vessels. Cold-storage vessels for the transport of frozen meat are in great demand; the national consumption of meat being approximately 90,000 tons yearly, while the home stocks of cattle are greatly reduced and will have to be carefully husbanded and fostered for a long time to come. For such new construction much material is wanting, especially iron, steel, copper and machinery, usually supplied by the Allies, chiefly Great Britain. Many new sailing vessels are also desired, particularly those provided with auxiliary engines using oil or benzine, up to about 600 tons, for the coasting trade.

Much had been done towards encouraging shipbuilding on the existing slips and the laying down of new ones. The number of new slips is reported to be about 100, and it had been estimated that in three years the Italian Mercantile Marine would exceed 4,000,000 tons.

Although the total output of the Italian yards was

not notable in 1918, there was behind it a spirit of whole-hearted enterprise which promises well for the future. Thirty-six shipyards are now in operation and 15 others are planned and it is hoped that a total output of 800,000 tons annually can be obtained if difficulties in obtaining materials are obliterated. New sources of supply of steel are being exploited in the island of Elba and the valley of Eosta.

Japan Develops New Strength

The shipbuilding industry in Japan enjoyed great prosperity during the war period, numerous orders having been received from abroad as well as from Japanese ship owners.

On June 30, 1914, an analysis of Lloyd's registers and the reports of the Japanese Department of Communications shows 616 steam vessels of 1,625,844 gross tons in the Japanese merchant marine of 500 gross tons and over. A similar study as of November 1, 1918 shows a total of 792 steam vessels with a gross tonnage of 2,010,382, an increase of 176 steamers of 384,538 gross tons or approximately 25 per cent. This net increase is accounted for through the construction of 284 steamers of 768,325 gross tons and the purchase of 43 vessels of 130, 817 gross tons and the loss of 30 steamers of 131,677 gross tons through enemy action, of 75 steamers of 123,783 gross tons through marine risk, and of 43 steamers of 180,141 gross tons through sale to aliens and through miscellaneous adjustments amounting to 78,003 gross tons.

During the period of greatest submarine activity, when the needs for our armies in France were

rapidly outgrowing the capacity of available shipping, the Shipping Board seized an opportunity to secure 280,000 tons of Japanese vessels at short notice. About 150,000 tons were chartered to us immediately, and we furnished the steel to complete 130,000 tons which were then under construction. The latter vessels were completed and delivered to us at record speed. The completion of this tonnage left idle thirteen highly efficient Japanese shipyards capable of turning out ships faster than we could possibly expand our own facilities at that time and get anything like equal results. The demand for ships was still the crux of the military situation in France, and the Shipping Board did not hesitate to give the Japanese yards contracts for thirty more vessels. Excellent progress has been made on these contracts, 80 per cent of the steel having been rolled here and shipped to Japan.

The tonnage chartered from Japan is being returned to them just as rapidly as shipping conditions will permit.

Japan has developed great shipbuilding power. She is developing new sources of steel supply in China with a view of becoming less dependent upon Europe and America for plates. At the same time it is proper to mention the fact that there is a surplus of shipbuilding steel in England on which the British authorities are granting preferential ocean freight rates to the Far East.

The number of shipways in Japan on January 1, 1919, was 145. The annual normal capacity is 1,200,000 tons. The annual maximum capacity is estimated at 1,700,000 tons. Japan expects to build

during the year 1919, 181 steamers of 1,000 tons and over, aggregating a total tonnage of 1,189,280.

Sweden's Yards Busy

During the war Sweden lost 185 vessels of 202,000 gross tons through the hostile action of the Central Powers. This loss constituted about 18 per cent of the total merchant fleet of Sweden at the outbreak of the war. At the end of 1918, 50 ships of approximately 60,000 tons d.w. were under construction, a record in Swedish shipbuilding. The yards can get orders in almost unlimited numbers—some docks are engaged until 1923, but lack of materials limits the production. Plates which formerly came from England were badly needed during the war. When the English supply was cut off, they used plates of Swedish manufacture, which are good but not nearly sufficient. Besides building, all the Swedish docks are engaged in repairing, equipping, or lengthening steamers which shall sail on the enlarged canal to the sea.

During the first half of 1918 negotiations were carried on in London between the Allies and Sweden which resulted in an agreement whereby the Allies took over a considerable part of Sweden's tonnage. The Allies agreed to allow Sweden to import necessities and food stuffs under a guarantee against re-exportation. Swedish shipping received one advantage from the agreement. It was now possible for the rest of the Swedish tonnage to take up connections between Sweden and transoceanic countries in the open market, and perhaps this fact has in some measure covered the loss and risk of the tonnage destroyed.

During the autumn the Oresunds Yards, in Landscrona, launched its first ship. This dockyard has four ways, one of which can take ships up to 20,000 tons. Ten steamers from 4,000 to 8,000 tons are at present ordered or under construction at the yard.

Experience of the Norwegians

Both in amount and percentage Norway suffered greater loss than any other neutral country. She lost 1,178,000 gross tons of shipping, which was 47 per cent of her total merchant fleet in 1914.

At the beginning of 1918, 64 motorships and steamers were being built, of which 5 are of steel, 50 of wood, and 8 of concrete. All together 225 ships of about 200,000 tons were under construction in Norway. Many of these motorboats may have to lie idle as soon as they are finished for lack of oil.

In this connection, the "Verdens Gang" of Christiania says that Swedish shipping interests have 55 ships, of 142,000 tonnage in all, on order at Norwegian yards. However, shortage of materials prevents a large number of these ships from being built, and the Norwegian Government may prohibit the sending of a considerable number to Sweden while the Norwegian need is so great.

Several new shipyards have been built in Norway and old yards have been put in repairs and enlarged both technically and economically. At first it was difficult to get the necessary materials, while in 1918 the exportation of iron from iron-producing countries was absolutely at a standstill, and it was not until the end of the year that many shipments

moved. Therefore it has been necessary at several shipyards to reduce their working force and exercise economy. In order to prevent unemployment, it was necessary during the year to reduce the number of working hours.

Norway and America later entered in an agreement which guaranteed Norway shipments to meet her needs in such quantities as would not hurt the Allies. No goods imported from the United States must go to the Central Powers or replace goods going to the Central Powers.

The director for the Norwegian "Veritas" has stated that it will certainly be difficult to replace the great loss in ships within a reasonable time, because all shipbuilding countries will first attend to their own needs. It was therefore important that the Norwegian ship and machine workers should be increased in order to build ships of a size which will be in demand after the war, namely, steel ships of 5,000 to 15,000 tons d.w., supplied with the most economical engines and machines.

Concrete shipbuilding has shown a remarkable development. Norway was the first to take up this industry; the first concrete ships have been put in commission and the building methods used in Norway have been copied by several other countries.

Tonnage Situation of Denmark

An analysis of Lloyd's registers shows that the 429 steamers of 737,532 gross tons, 500 gross tons and over, in the Danish merchant marine as of June 30, 1914, had decreased to approximately 329 steamers of 600,000 gross tons as of June 30, 1918,

a decrease of approximately 100 vessels of 137,532 gross tons, or nearly 20 per cent in tonnage. Denmark's losses due to enemy action were unusually heavy, amounting for the period to 143 steamers of 219,000 gross tons. Losses by marine risk of 17 steamers of 23,137 gross tons were slight in comparison, while sales to aliens of 62 vessels of 96,606 gross tons almost equalled Denmark's foreign purchase of 122,559 gross tons. New construction amounted to 60 steamers of 90,922 gross tons. Miscellaneous steamers dropped from registry or broken up account for the remainder of the decrease.

Spain Suffers Heavily

An analysis for 1914-1918 shows that the Spanish steam merchant marine, 500 gross tons and over, which included 397 steamers of 864,395 gross tons as of June 30, 1914, decreased to approximately 300 steamers of 650,000 tons as of June 30, 1918, a decrease of 97 steamers of over 210,000 gross tons, or approximately 25 per cent. This decrease is due largely to the heavy losses inflicted by enemy action of 77 steamers of 165,930 gross tons by marine risk, 34 steamers of 73,591 gross tons, and to sales to aliens of 31 steamers of 59,759 gross tons. New construction amounted to 15 steamers of 35,448 gross tons and foreign purchases to 25 steamers of 47,650. Miscellaneous adjustments account for the remaining difference. Four years ago the shipbuilding industry in Spain was confined almost wholly to the yards of the Sociedad Espanol de Construction Naval at Ferrol, Cartagena, and Matagorda, and those of the Compa

Buskalduna and the Astilleros del Nervion at Bilbao. Now there are a number of new establishments.

Greece

Greece's war losses were 338,000 gross tons, or approximately 40 per cent of her pre-war fleet.

Holland

The war losses suffered by Holland were much less than that of most other European countries. She lost approximately 200,000 tons of shipping, or 14 per cent of her merchant fleet in 1914.

Belgium

Belgium's war losses amounted to 99,000 tons, or 25 per cent of her total fleet.

Brazil

Brazil lost through war risk about 8 per cent of her merchant fleet (25,000 tons).

Austria

Austria lost 393,000 tons of vessels during the war. These losses were due chiefly to seizures and capture by enemy countries, and constituted 37 per cent of Austria's pre-war merchant marine.

Germany

The total steam merchant fleet of 100 gross tons and over under the German flag on June 30, 1914, amounted to 2,159 vessels of 5,291,000 tons. It was the second largest merchant navy in the world. Less than one-half of the German fleet of 1914 remained in German hands at the close of the war. According

to the best information available 1,507,000 tons were in trade or in ports of Germany, Austria, and Turkey. The location of 334,000 tons was unknown. No doubt the major part of this was in German hands. Vessels aggregating 738,000 tons were laid up in neutral ports, and so far as can be ascertained, were still the property of German citizens at the close of hostilities. The outside estimate of 1914 tonnage in possession of Germany at the close of the war would not exceed 2,580,000. Germany's losses during the war were exceedingly heavy. About 2,111,000 tons (steamers of 100 gross tons and over) were captured or seized by countries at war with Germany. Seventy-nine steamers of 187,000 tons are reported lost through enemy action. Germany's losses through marine risk during the war cannot have been very heavy inasmuch as few German ships ventured upon the high seas during this period. Germany's losses from this source and other sources not mentioned above were probably about 400,000 tons, making Germany's total losses during the war of tonnage which was in existence in 1914 about 2,712,000.

Germany's fleet at the close of hostilities consisted, therefore, of 2,580,000 tons of 1914 tonnage which she still owned, plus about 740,000 tons which were built during the war making a total of about 3,320,000 tons.

The Labor Situation

The labor situation throughout the world is vibrant. Experience of earlier generations has taught us not to expect a completely noiseless turning back

of the war machinery to the uses of peace. Men who have labored under great strain yield their attention more readily to the agitator. The agitators abound. The blight of Bolshevism has been thrown out so that the winds of the earth might waft it everywhere to sap the good strength of humanity. We may count ourselves fortunate that the disruptive forces have gained no more headway. The tendency to disorganization has penetrated the labor unions themselves, notably in England, where strikes have been called without the sanction of the selected leaders.

The sober common sense of mankind is asserting itself, however, as we found at Seattle, wherever the undesirables seek to arrogate power. The most optimistic student of the labor situation today, however, must realize that it is a time for alert appreciation of new conditions and new necessities. Men in responsible places must be awake to the new voices that may be heard nor cling too long to outworn shibboleths. The matter is at the heart of national prosperity in whatever phase you view it. It is not saying too much to assert that the handling of the labor situation in any nation you may choose will determine that nation's success in shipbuilding and ship operating as well as in every other material department of her life.

The labor situation in England is peculiarly illuminating and I deem it expedient to include herein a few notes I made upon the situation while I was there. Strikes and threats of strikes have affected the shipyard areas. Stoppages of work have occurred at the Belfast, London, and Clyde shipyards.

At Belfast, shipyard and engineering workers, and municipal employees in the tramway, gas and electricity services, have been on strike, the demand being for a 44-hour week. The strikers numbered 40,000, about 60,000 other work-people having been thrown into idleness by the paralysis of industry following the withdrawal of light and motive power.

At London, ship repairers (engineers, shipwrights and carpenters, etc.) to the number of 10,000 have been on strike, the demand being for an advance of 15s per week in wages.

There have also been local and partial strikes among shipyard men on the Northeast Coast, dock workers in Manchester, electrical engineering workers in Edinburgh and shipbuilding and engineering workers in Leith.

Most violent of all the demonstrations that have so far taken place has been the action of the shipyard and engineering workers in the Clyde district. The men involved numbered something like 100,000, and they demanded a 40-hour week with no reduction in wages. A strong effort was made by the shipyard workers to have the municipal employees join them. Many of the strikes which have so far occurred had one very important feature in common: none of them were authorized by the governing bodies of the trades unions affected, and in some cases they were emphatically repudiated by the trades unions executives.

The Future of Our Seamen

The future is bright for those Americans who would follow the profession of the sea. My obser-

vations abroad convince me that there are no adequate reasons why America should recede from the very high standards of wages and conditions of life she has adopted for her seamen. Here in America there exists an idea that our seamen's wages are incomparably higher than in any other nation. The thought is widely propagated that these rates of pay for the labor of the men who operate our ships render it impossible for us to enter profitably into competition with the other great maritime nations, notably England. It is high time that the public mind were disabused of this misconception. I have obtained the facts regarding seamen's pay both in England and France. The facts will dismay those persons who are agitating for a lower wage scale on American ships. The data in my possession indicates indeed that the wage question is not an overshadowing one for those concerned with the future of our merchant marine. We are paying our seamen $75 a month. That fact is well known and frequently commented upon. England during the war paid her seamen $72 a month. That fact is not so well known. The British ships are manned by Englishmen today. So much has been said regarding the cheap Eastern labor that makes it possible for British ships to operate at great profit, that I deem it wise that you should know that practically every maritime nation of the earth has now turned toward the conclusion that it is better to operate their own ships with the labor of their own citizens. The war has witnessed a great falling off of the foreign labor employed under maritime flags. It is my conviction that the future will witness a devel-

opment of this tendency along lines more and more nationalistic. Of course abolition of cheap Eastern labor and higher wages went hand in hand.

The French and Dutch also are paying high wages to their merchant crews. In Sweden the seamen's wage scale is even higher than in the United States. It is true indeed that Greece, with her comparatively small merchant marine, pays lower wages, but that is not a matter of very great importance in determining the future policies of a merchant navy as large and powerful as that of England or America.

There is scarcely more reason for predicting a return of old and low wage scales among European seamen than of a reduction of American standards. Seamen of the world are well organized in whatever country you may choose for an example. They have behind them a long history of privation, of constant danger and of a rigid and tyrannical discipline. They have shared recently in the humanitarian benefits of a new civilization. They will never go back to the old order. No forward-looking man would ask it. No one who understands the force and power and value of the men who labor on merchant ships can expect it for a moment. It is true that a part of the wage paid by the European nations as well as by America consisted of war bonuses. It is problematical, however, how far the halting of hostilities will reduce war wages. The cost of living has not yet gone down for these men who performed such valiant service upon the seas. England has continued her war bonus as a wage increase.

Wages form but a part of the issue of the seamen's standards. Their conditions of living aboard ship and the recognition of their rights as citizens even upon the sea overshadow the wage question. A high and advanced position has been assumed by the Congress in recognition of the rights and prerogatives of seamen. The Shipping Board on its part has endeavored to provide quarters for merchant crews which are fit places for Americans to live in. The seamen of other nations I found during my stay abroad are intent upon obtaining the same treatment aboard ship.

The seamen's problem is a part of the great labor problem being dealt with, in so far as general principles may be applied, by the commission on international labor legislation appointed by the Peace Conference at Paris. I have the honor to be associated with this Commission as a representative of the United States. Since my return to the United States the Associated Press dispatches have announced the acceptance by this Commission of two principles: (a) prohibition of labor by children under 16 years of age, and (b) uniformity of seamen's wages. No official statement has yet amplified this press announcement, but the reported action of the Commission reveals the importance universally attached to the seamen's problem in this day when so many great nations are acutely awake to the vital bearing of sea commerce upon their destiny.

Ships and Foreign Trade

Prior to August, 1914, both the foreign trade and the shipping of the United States were to a great

extent dominated by British interests, partly through ownership or stockholding, but more largely through contractual relations established by the powerful trade and shipping concerns of Great Britain.

It is quite natural that this condition should have existed, because in the face of the long British experience in foreign trade and in shipping, and the British control of desirable connections throughout the world, American traders and ship operators who wished to do business found it convenient to use British agencies.

The control of cable lines and the only comprehensive organization for gathering shipping information (Lloyd's) gave the British an enormous advantage in all aspects of foreign trade and transportation.

At the outbreak of the war only a part of the tonnage under the American flag was employed in overseas trade. In 1915, for example, only one-seventh of the foreign trade of the United States was carried in American bottoms.

The total exports and imports of the United States for the year 1915 was approximately 50,000,000 long tons. With average shipping efficiency, the movement of these goods would have required about 9,000,000 gross tons of ships.

Assuming an annual increase in the foreign trade of the United States equal to the average increase for the five years next preceding August, 1914, the foreign trade in 1920 would require a greatly increased merchant tonnage, if it all were to be carried in American bottoms.

The consensus of opinion is that world trade, during a period of six months or a year following the signing of the armistice, will be less than it would have been had normal conditions prevailed during the preceding four years. At the same time it is generally believed that in the years succeeding this period the increase will be enough in excess of the normal peace-time rate to compensate for all effects of the war. It is expected, also, that the increase of production in many lines of industry in the United States will compel a rapid expansion of exports.

It has been an accepted principle since the time of Ben Franklin that a strong maritime power should carry in its own ships at least 50 per cent of the aggregate of its exports and imports. In addition it should expect to handle some of the trade between countries that are not yet in the shipping business. Assuming a total export and import business in 1920 of 70,000,000 long tons, to transport 60 per cent in our own ships, would require a fleet of about 7,500,000 gross tons.

Shipping men generally agree that it is not the total tonnage but the character of the vessels that makes a successful fleet. The country might have 10,000,000 tons of shipping which, if not of the right sort, could not be operated profitably in competition with ships of a better type, belonging to other nations.

One of the types of ship which will be desirable for the new merchant marine is a speedy, effective combination cargo and passenger liner of from fifteen to twenty-five thousand tons deadweight,

which will be effective both in the transportation of high-class merchandise and passengers, and for a more rapid mail service.

In order to modify the construction program as outlined and on an economic basis, a commission of shipping experts has been appointed to formulate a program.

The three factors that militate most strongly against the natural and desirable expansion of the foreign trade of the United States are as follows: (1) That in order to distribute American products and to bring in imports through American agencies and largely in American ships, it will be necessary to find or develop seven men, who have the experience or training to handle foreign trade, where there was but one in 1914. It is essential that the men so developed shall be thoroughly American in their attitude toward the business, rather than borrowed from other nations, as was so generally the practice in pre-war times. (2) The recruiting of an American personnel for the operation of the ships and the handling of the work at the ports. (3) The extension of banking facilities. The position of the United States in foreign banking will require sustained development.

Shipbuilding Costs

Shipbuilding is an international business. Orders for ships may fly from one nation to another like birds, I have heard someone say recently. We must be up and alert in every matter affecting cost of construction and cost of operation if we intend to hold a position of primacy in the great industries of building ships and operating ships. Representa-

tives of the Shipping Board are busy securing data on costs of construction and costs of operation at home as well as abroad. In both respects the sources of material are widely scattered and the material itself unformulated, so engrossed have the nations been upon the business of getting ships to work without regard to expense. It must of course be borne in mind further that costs of ships during war times cannot be accepted as a criterion of costs today. The results of our inquiries into construction costs abroad will be set forth in a subsequent report.

I note that 36 tank steamers built on the Atlantic Coast prior to 1917 cost, on the average, $68.37 per d.w.t., while 12 built in 1918 are reported to have cost $109.75 d.w.t. I asume that the 1918 deliveries would be influenced by contract prices made perhaps as early as 1916, and would not reflect the cost for ships contracted for in 1918.

Fifty-four ocean freight vessels constructed in Atlantic ports prior to 1917 cost, on the average, $65.75 per d.w.t.; 17 built in 1917 cost, on the average, $81.75 per d.w.t.; while 9 delivered in 1918 cost $138.05 per d.w.t.

The cost of tank steamers on the Pacific Coast prior to 1917 is reported to have averaged $64.69; the six tankers built at those ports in 1917 have an average reported cost of $116.94 per d.w.t.; while an equal number delivered in 1918 are reported to have cost $138.38 per d.w.t.

Ocean freight vessels built at Pacific Coast yards have increased from an average cost per d.w.t. of $115.61, for deliveries prior to 1917, to $138.66 for

1917 deliveries, and to $159.06 for deliveries in 1918. Even if it is true that wages paid in our shipyards are higher than in British yards, I know of no cause for misgivings on that score. This estimated advantage in labor costs can easily be overcome by advantage gained in other cost elements, and particularly in employing our well paid ship workers. I do not believe that even the most lugubrious students of wage scales will debate the statement that American labor is more efficient. When we entered the war our shipbuilding industry was comparatively a small one. In reality we had to construct the industry before we could construct ships. The result was that the shipbuilding industry absorbed a great army of unskilled workers who although highly paid, could not possibly be efficient at the start. Our army of shipyard workers is today, however, a veteran and experienced army. The men are skilled in their trades. Their efficiency has increased at least 50 per cent. This increased efficiency will tend greatly to overrule the disadvantages in the matter of labor costs of ship construction that operated against us two years ago.

The shipbuilding industry of America includes men who have the vision to recognize the advantages that experience has placed in their hands. Some of them do recognize it. Since my return from Europe, I have talked with shipbuilders who indicated a willingness to reduce the contract price of work given them by the government during the disadvantageous days of the war. It was heartening that this suggestion should be made voluntarily by a shipbuilder. I have no hesitancy in saying that the justice of such a move is recognized at Washington and that consideration

is being given now to a revision of contracts which will take into consideration reduced construction costs.

When our shipbuilders settle down to the business of estimating construction costs this Spring, it would not surprise me to receive bids for contracts on a basis greatly reduced from the charges made during the war. Our shipbuilders are aggressive, enterprising men. They know how to figure costs and they know when to take a chance. They know that by striking confidently ahead at this time they can establish their industry upon a sounder and more enduring plane. They can be relied upon to amaze those who disparage their competitive abilities.

Operating Costs

An investigation as extensive as conditions permit is being made into operating costs. We are endeavoring to assemble all available data from which to obtain general ideas for the development of our maritime policy. One thing that stands out is the difference of opinion as to the importance of labor costs in ship operation. This element is only 10 per cent of the cost of operation.

The cost of operating vessels involves, in addition to the question of initial capital investment, the following points; (1) Wages of officers and men, (2) Insurance of the hull and machinery, (3) Bunkers and stores, (4) Harbor charges, fees, etc., (5) Maintenance and repairs. There are two methods of attacking the problem of operating costs; one is to gather data on the separate component costs and formulate these into hypothetical total cost figures;

the other is to get the total cost figure from the ship operators themselves and analyze it into the component costs. Each method has its advantages and disadvantages, and lines are being thrown out in both directions in the hope that the results of each will serve to a supplement the results of the other.

Data relating to the wages of officers and men are on hand, but it remains to be learned what are the numbers of officers and men carried by vessels of different types on different routes. There is no uniformity among the nations in this respect. The British navigation laws merely say that a vessel shall be "properly manned." The enforcement of this indefinite standard is in the hands of the surveyors employed by the Board of Trade, and the size of the crew actually carried on a given vessel is determined largely by the previous practice in that regard. Thus each vessel constitutes a law unto itself, and a proper knowledge of the subject will require an inquiry into the records of a great number of ship operators.

Presented at Washington, D. C., March 1, 1919.

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